FSE S1 Lab

(Java/MEAN/MERN stack)

README Document

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About the document

This Readme document provides guidelines to the learner to use or install the software/ frameworks that are needed for Full Stack Engineer – S1 Program – Java/MEAN/MERN Stack.

Lab Storage Drives

The lab has TWO storage drives

1) *C:\ drive*, where all the pre-installed and to be installed software/tools are stored. Please do not store any of your work items in this drive.

   The software are stored in the following folders:

   C:\soft\Academy training

   C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE

2) ***D:\ drive*, Store all your work item in this drive ONLY**

Users of this lab will have administrator rights so that they can download, install the latest version of the software listed below from internet and also run applications as administrators. Please exercise care in installing only the permitted software and no damage is caused to the lab machine or to the lab network. This lab will be continuously monitored and any violation recorded will be considered as security breach.

List of software/framework supported in the lab

Below is the list of software/frameworks that are needed for a Full Stack Web Development using Java/MEAN stack

- Java SE Development Kit 8 (64 bit)
- Spring Tool Suite
- Apache Tomcat
- MySQL Server
- MySQL Workbench
- MySQL Command Line Client
- MySQL connector Python
- MySQL connector Java
- Hibernate
- Spring Framework

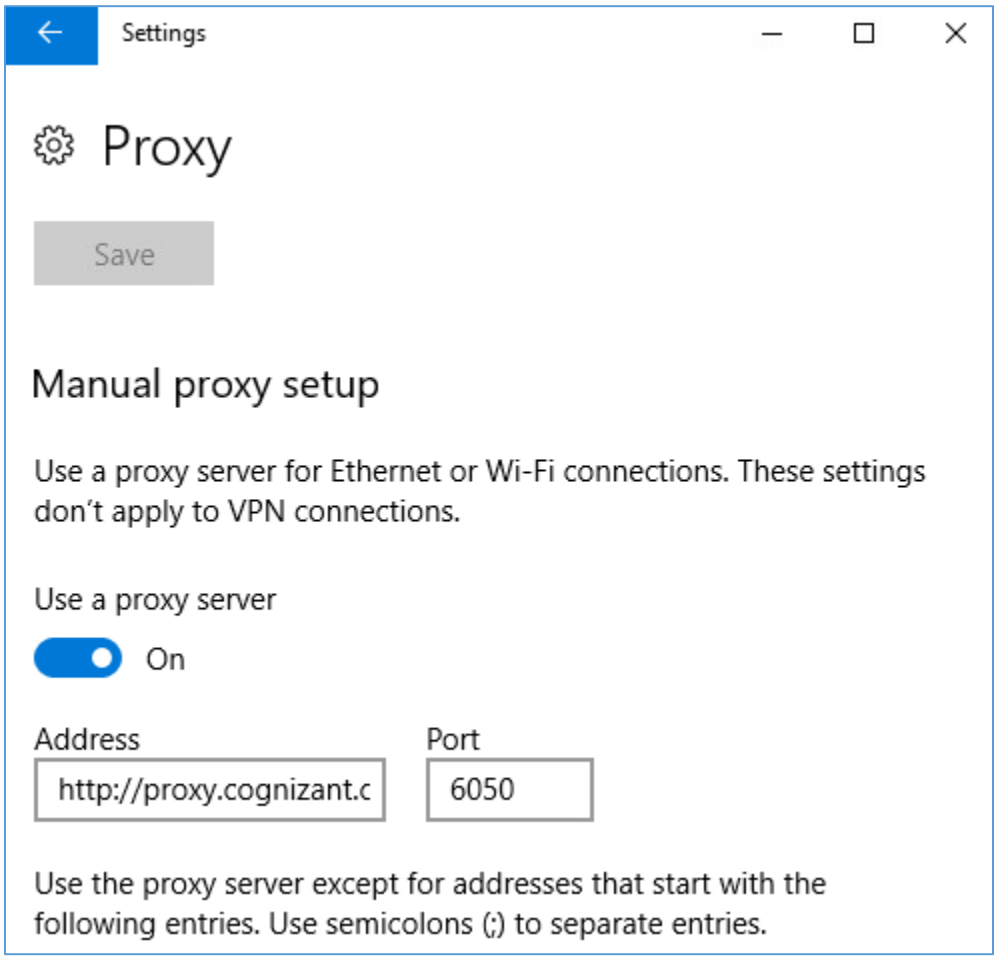
- Python
- Apache Maven
- Jenkins
- Gitlab Runner
- Git
- Egit
- SonarQube
- Docker for Windows
- Postman Client
- Node.js
- Angular
- ReacJS
- EmberJS
- jQuery
- Bootstrap
- MongoDB
- Mongoose
- Visual Studio Code
- Apache Jmeter
- Jasmine
- Notepad++
- XAMPP
- Protractor
- Mockito
- MockMVC
- Istanbul
- Ecl Emma
- JaCoCO
- Enzyme
- Mocha
- Chai
- Grunt
- Gulp
- Webpack
- Microsoft Office Products 2016
- Internet Explorer
- Microsoft Edge
- Google Chrome

- Adobe Acrobat Reader

Proxy Settings

The lab uses the proxy server “http://proxy.cognizant.com” with the port 6050 to connect to internet.

Configure the proxy via Settings→Network and Internet→Proxy→Manual Proxy Setup



Java SE Development Kit 8 (64 bit) (Installed)

Installed Path: C:\Program Files\Java\jdk1.8.0_131

Spring Tool Suite 3.6.4 (Installed)

Installed Path: C:\soft\Academy training\STS3.6.4

Apache Tomcat 9.0 (Installed)

Installed Path: C:\soft\Academy training\01_NEW-UPDATED_SOFTWARE\apache_tomcat_9.0.20

Configure the server http listening port to other than 8080 (say 9080) as jenkins is already configured to listen at 8080

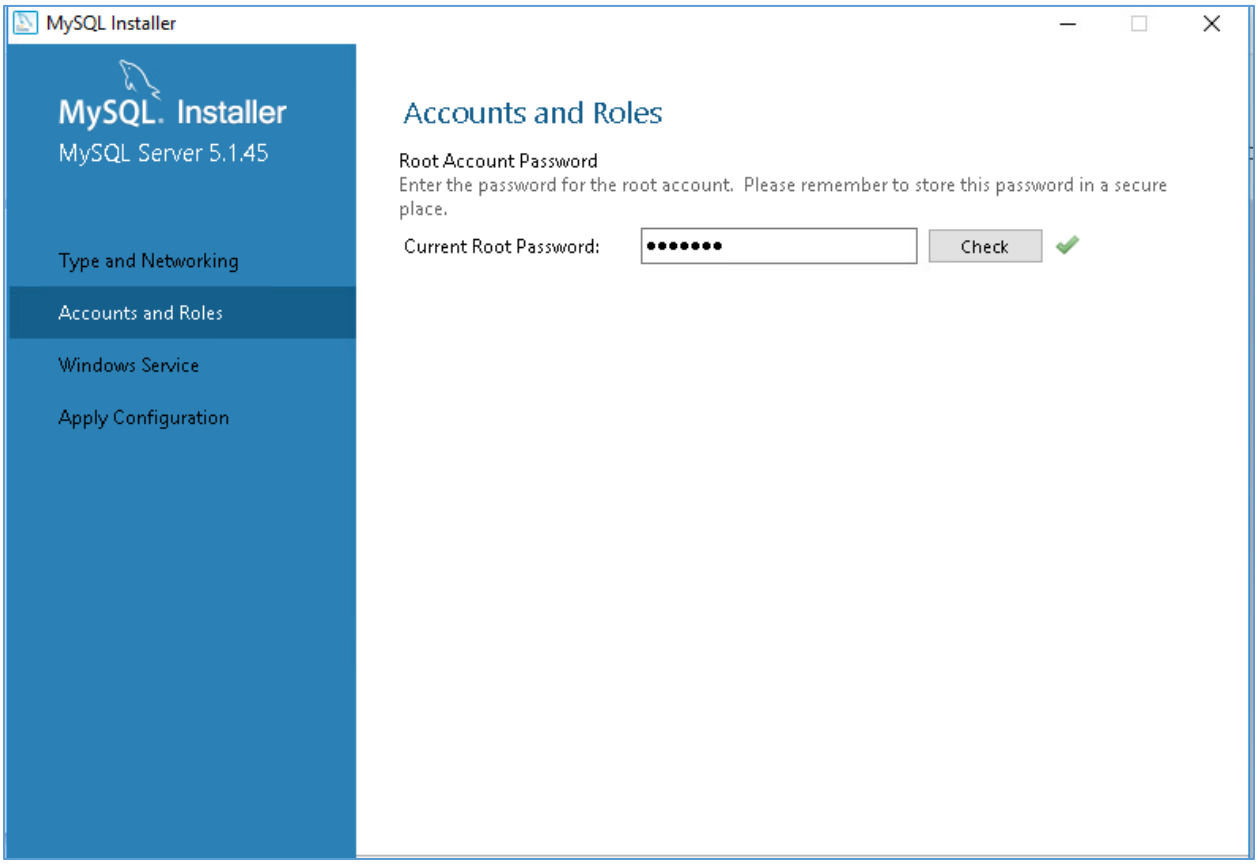
MySQL Server 5.1.45 (Installed)

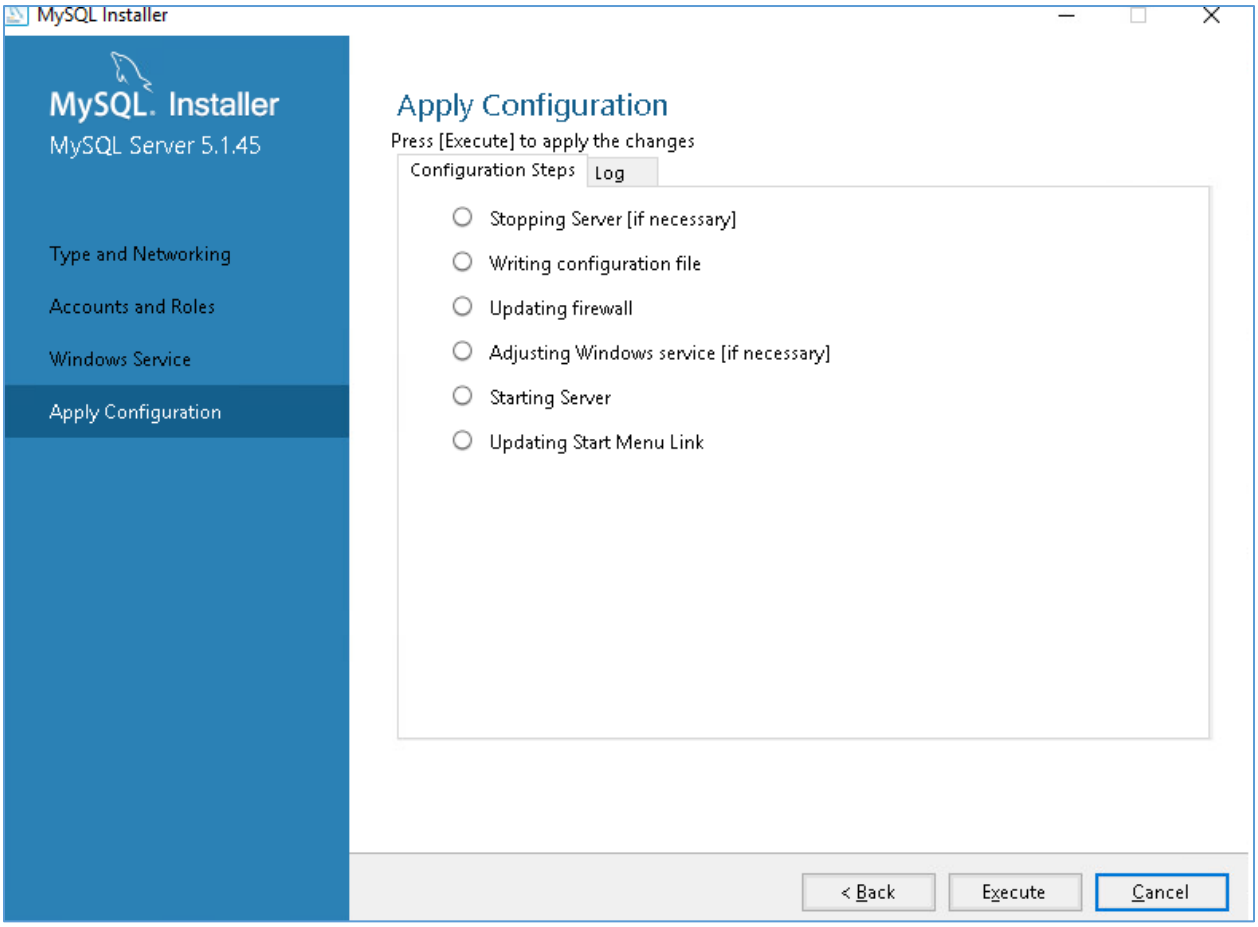
Installed Path: C:\Program Files (x86)\MySQL\MySQL Server 5.1

First time access:

i) Open MySQL Installer and upgrade MySQL to the latest edition. (Do this only if update is needed)

ii) Open MySQL Installer and click on the Quick Action “Reconfigure” for the product “MySQL Server”. Update only the Current Root Password as root123 under Accounts and Roles. Under Apply Configuration, click Execute





iii) Start MySQL Command Line Client or WorkBench with password "root123"

From second time access: use MySQL Command Line Client or WorkBench from windows start menu

MySQL connector for Java (Installed)

Use the jar at C:\soft\Academy Training\NEW_UPDATED_SOFTWARE\mysql-connector-java-8.0.16.jar

Python 3.7.3 (To be installed by the user)

Install using C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE\python-3.7.3(Installer).exe

MySQL connector for Python (To be installed by the user)

Install using below command at command prompt

python -m pip install mysql-connector

Apache Maven 3.5.0 (Installed)

Installed Path: C:\soft\Academy training\apache-maven-3.5.0-bin\apache-maven-3.5.0

Configuration:

i)Add the maven bin path C:\soft\Academy training\apache-maven-3.5.0-bin\apache-maven-3.5.0\bin to the environmental variable PATH.

ii) In command prompt execute the command *mvn install*. This will create .m2 folder in the folder *D:\Users\<<your id>>*

i) In STS, Window->Preferences->Maven->Uncheck “Do not automatically update dependencies from remote repositories"

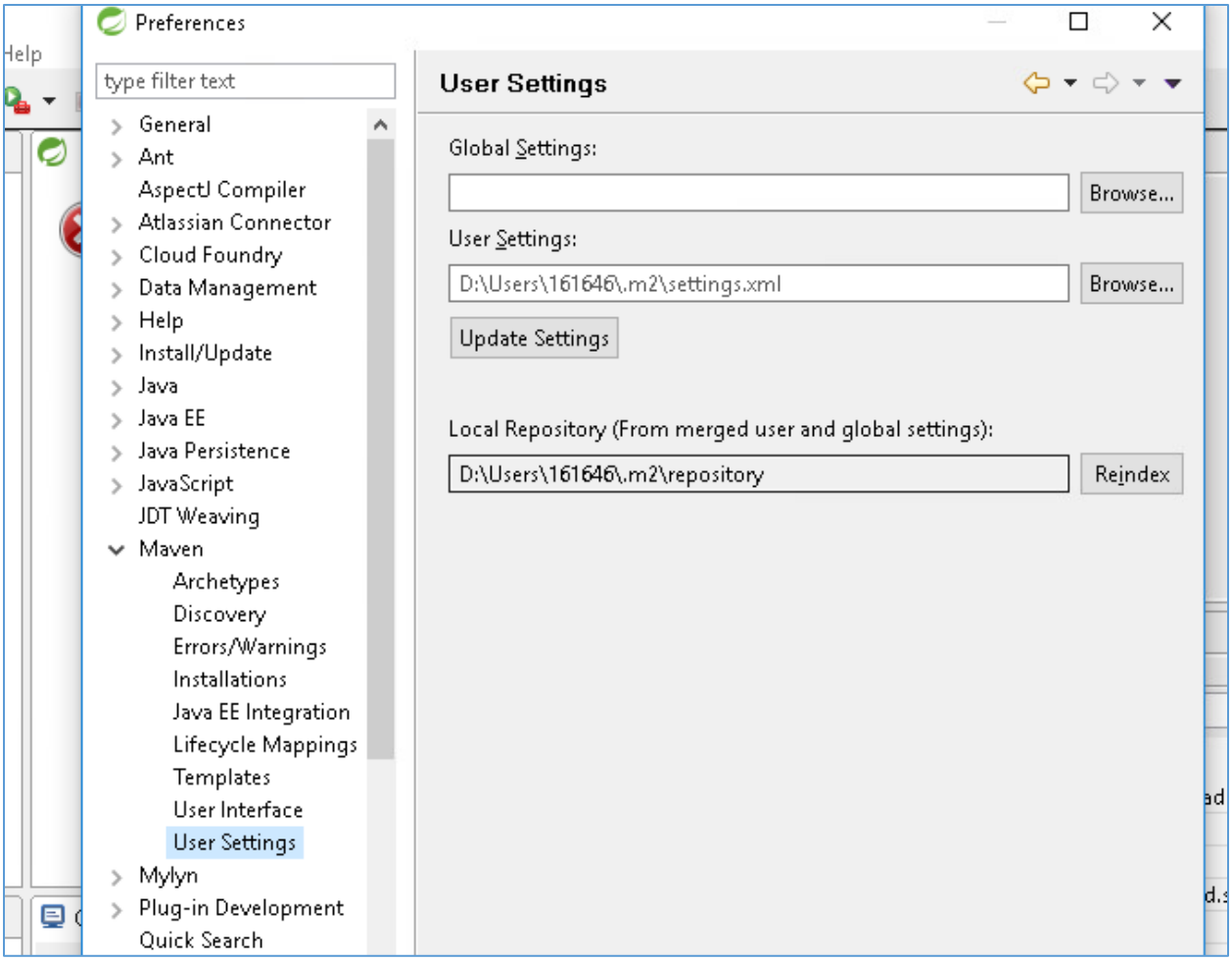
ii) In STS, Window->Preferences->Maven->Installations-> Add Maven installation folder and keep that alone selected.

iii) Copy "settings.xml" from <Maven Home>\conf to D:\Users\<<your login name>>\.m2

iii) Add the proxy details in the copied settings.xml file with your network id and password

```
<proxy>
  <id>optional</id>
  <active>true</active>
  <protocol>http</protocol>
  <username>proxyuser</username>
  <password>proxypass</password>
  <host>proxy.cognizant.com</host>
  <port>6050</port>
  <nonProxyHosts>local.net</nonProxyHosts>
 </proxy>
```

iv) In STS, under Windows→Preferences→Maven→User Setting→><<add the path to the updated settings.xml file path>>



v) In STS, create a Sample Spring Starter project. If the project creation is successful then the maven configuration is valid.

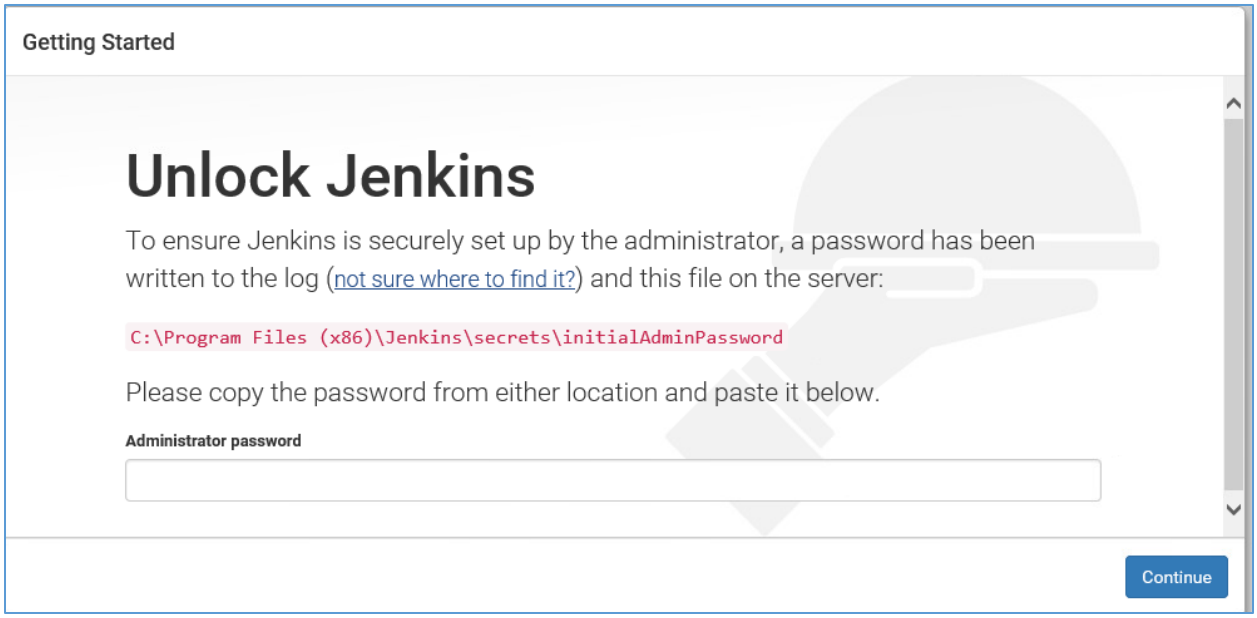
Jenkins 2.73 (Installed)

Installed Path - C:\Program Files (x86)\Jenkins

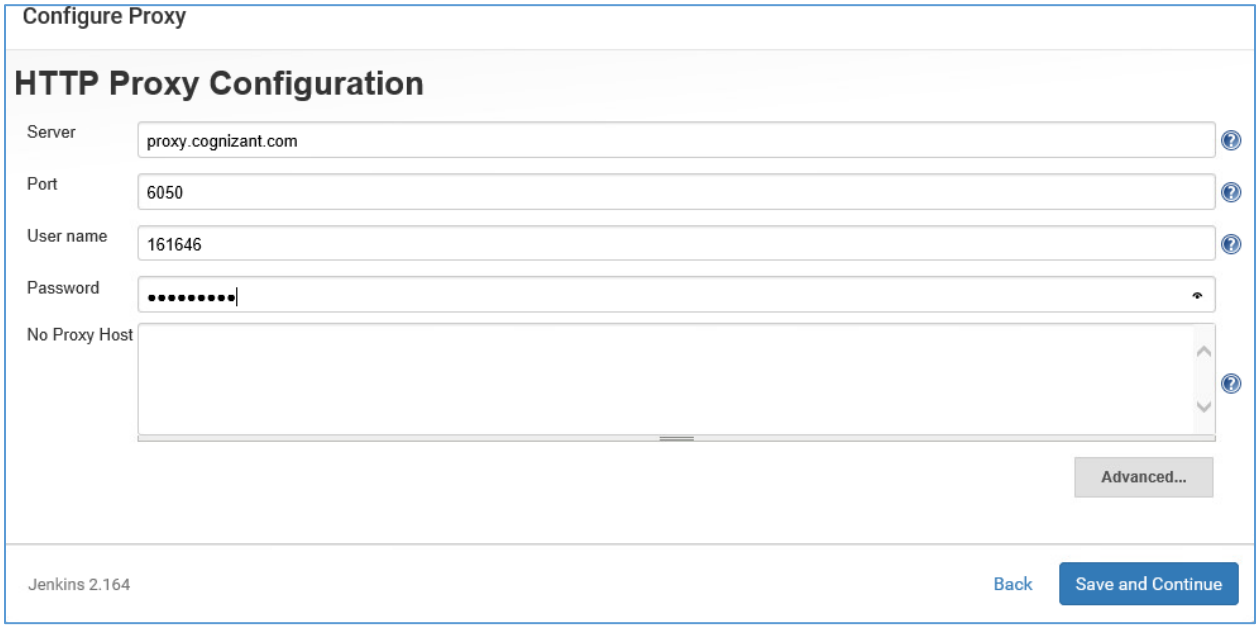
First time access:

i) Open http://localhost:8080 using a browser

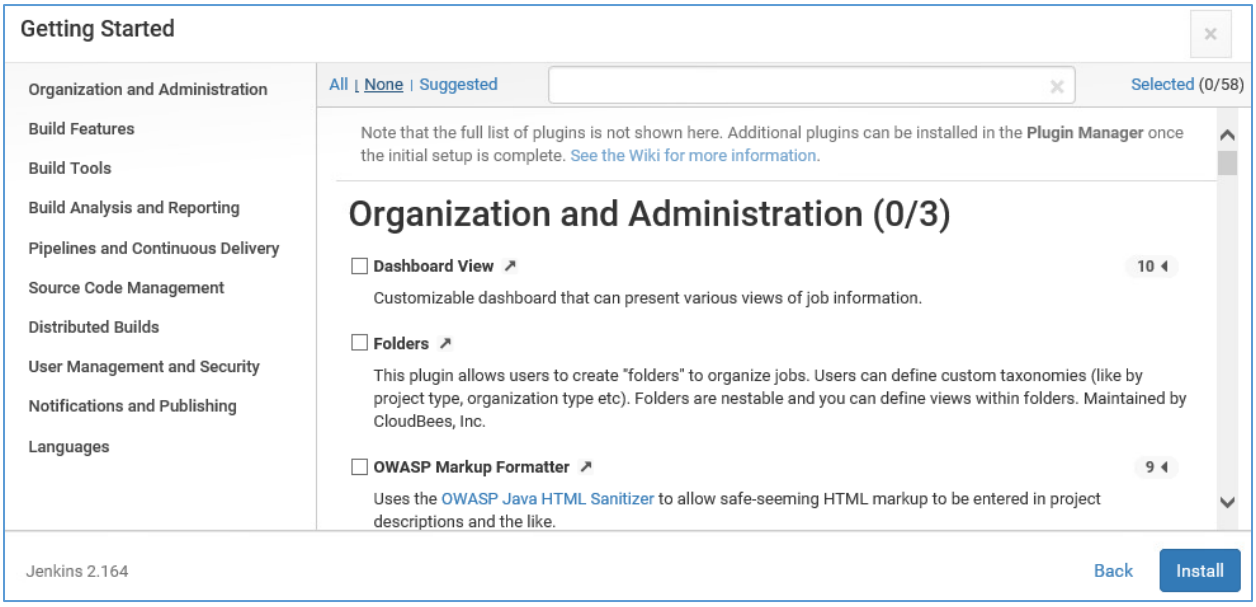
ii) Provide initial admin password (copy form the file C:\Program Files (x86)\Jenkins\secrets\initialAdminPassword)



iii) Provide proxy settings with your network credentials. Save and continue

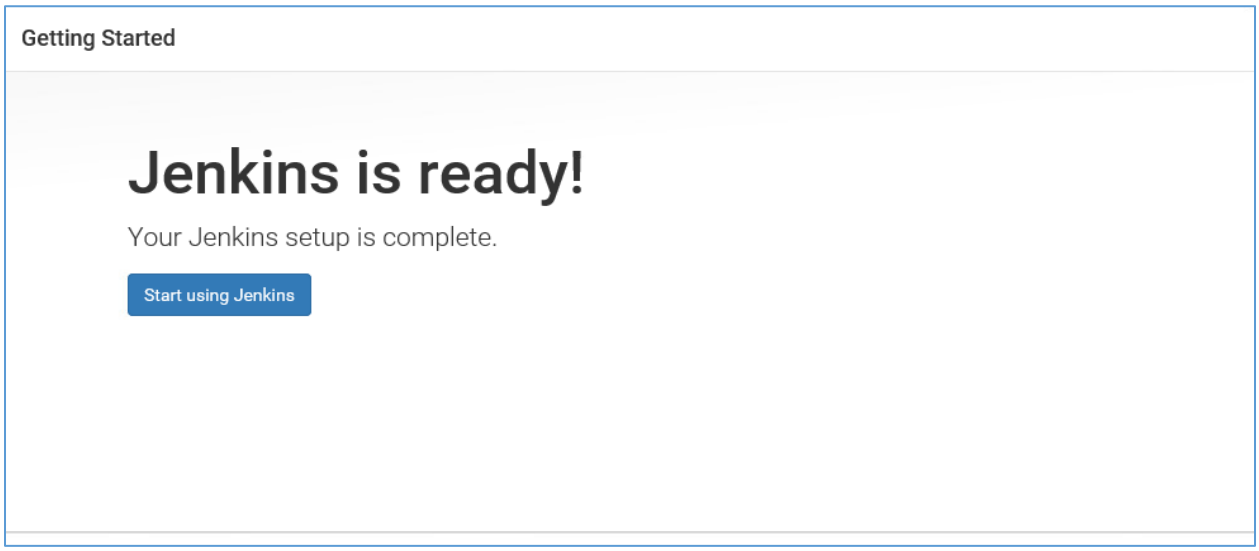


iv) Select Plugins to install and deselect all (or select none) and click install. You can install plugins later based on the need using “Manage Jenkins” option

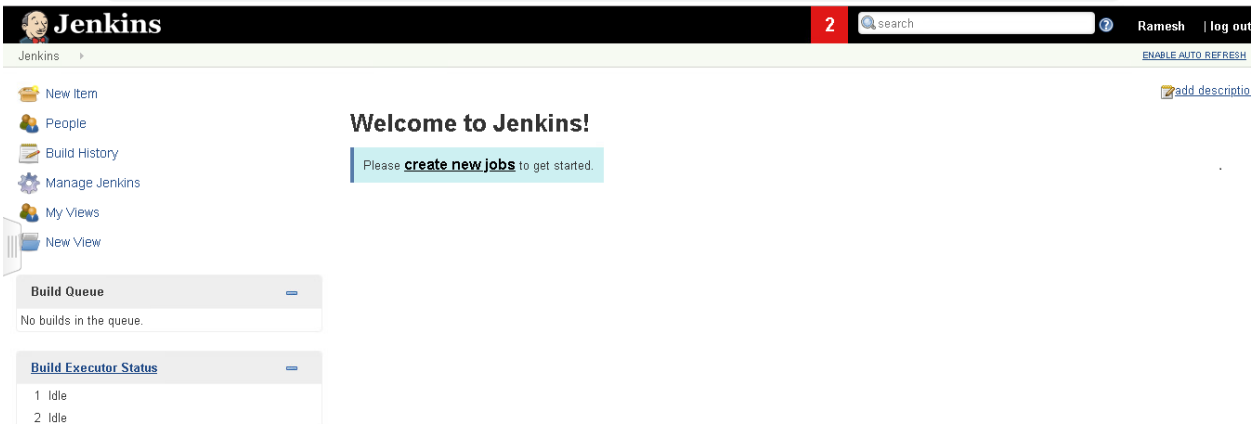


v) Create first admin user with user name **admin** and password as **admin** and **name** as **your name, save and continue**

vi) Jenkins is ready to use. Start using Jenkins



vii) Use the admin credentials (admin/admin) to log in to Jenkins



GitLab Runner 10.0.0 (Installed)

Installed Path - C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE\gitlab-runner-10(Installed - Use this)

Git 2.21.0 (Installed)

Installed Path - C:\Program Files\Git

Configuration:

i) Open gitbash from <<git install path>>/bin
ii) Execute the command *git config --global http.proxy http://networkid:password@proxy.cognizan.com:6050*
iii) Check the proxy setting using the command *git config --global --get http.proxy*
iv) When you get SSL certificate issue while connecting with GitLab/GitHub execute the command *git config --global http.sslVerify false*

SonarQube 7.7 (Installed)

Installed Path - C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE\sonarqube-7.7(Installed – Use this)

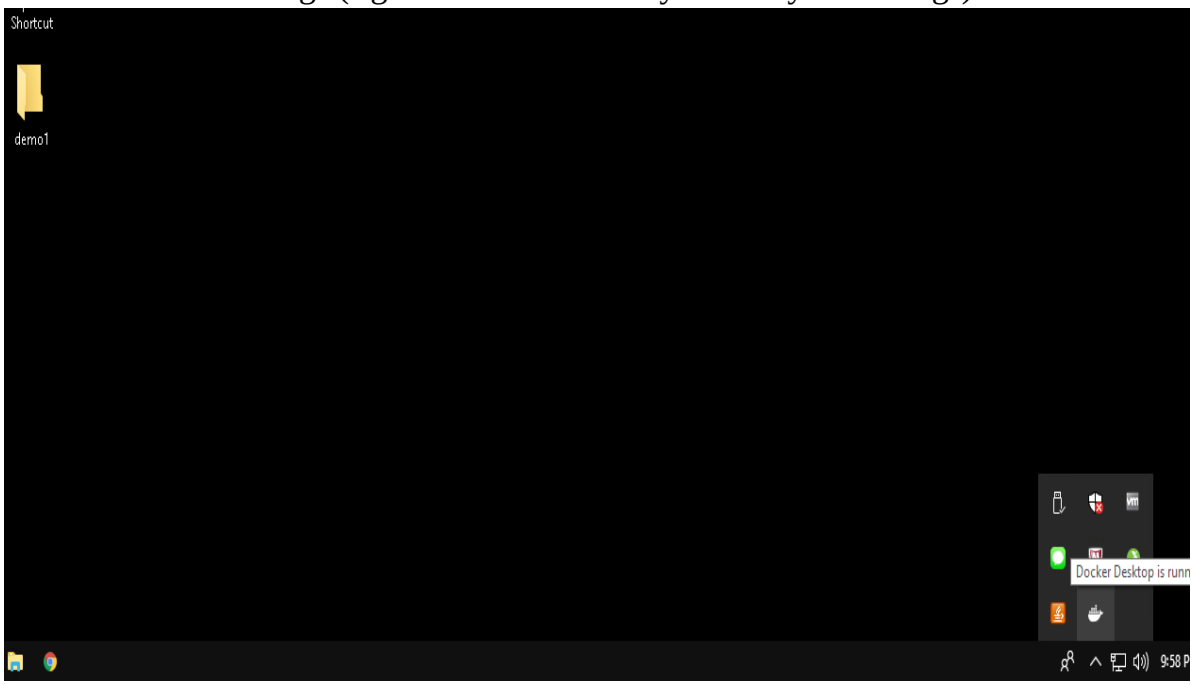
Docker for Windows (Installed)

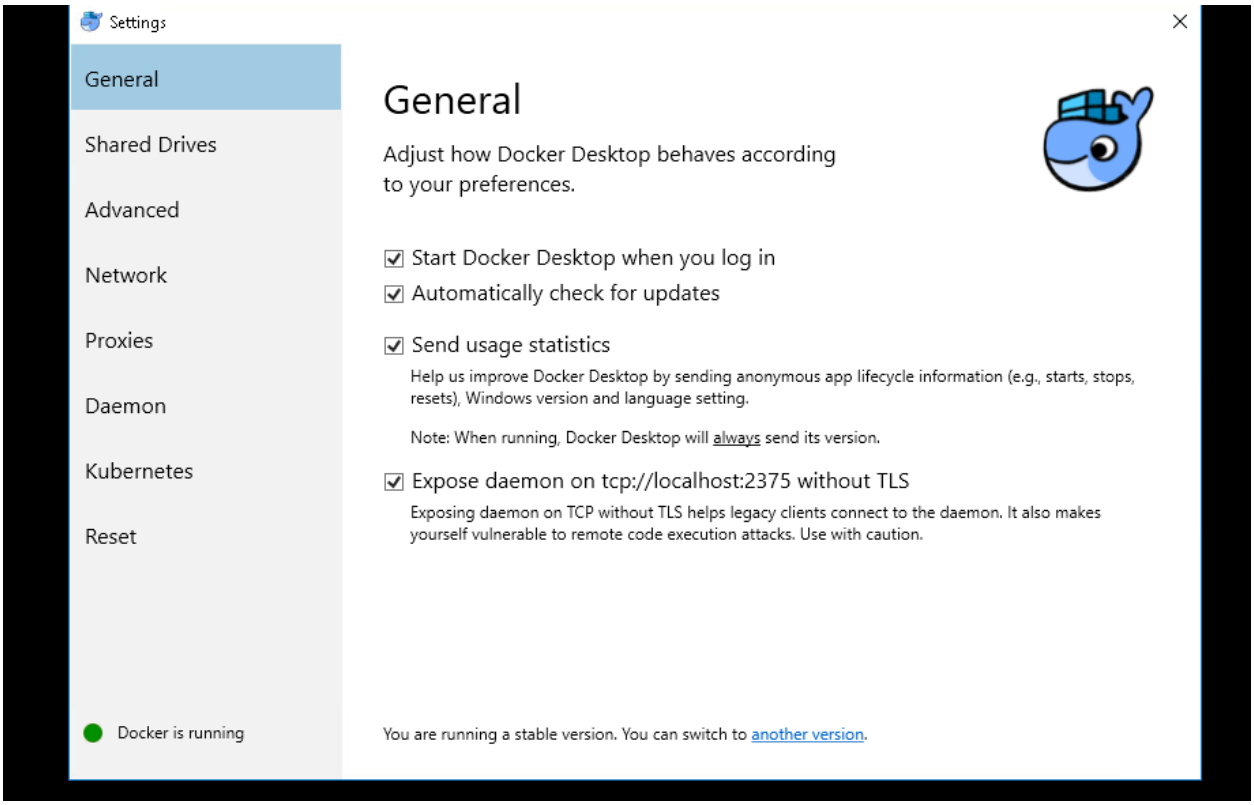
Installed Path - C:\Program Files\Docker\Docker

Configuration:

i) Start Docker by running the application *Docker Desktop* from Windows program

ii) Once started, enable the option "Expose daemon on tcp://localhost:2375 without TLS in the Docker settings (right click Docker in system tray → settings)

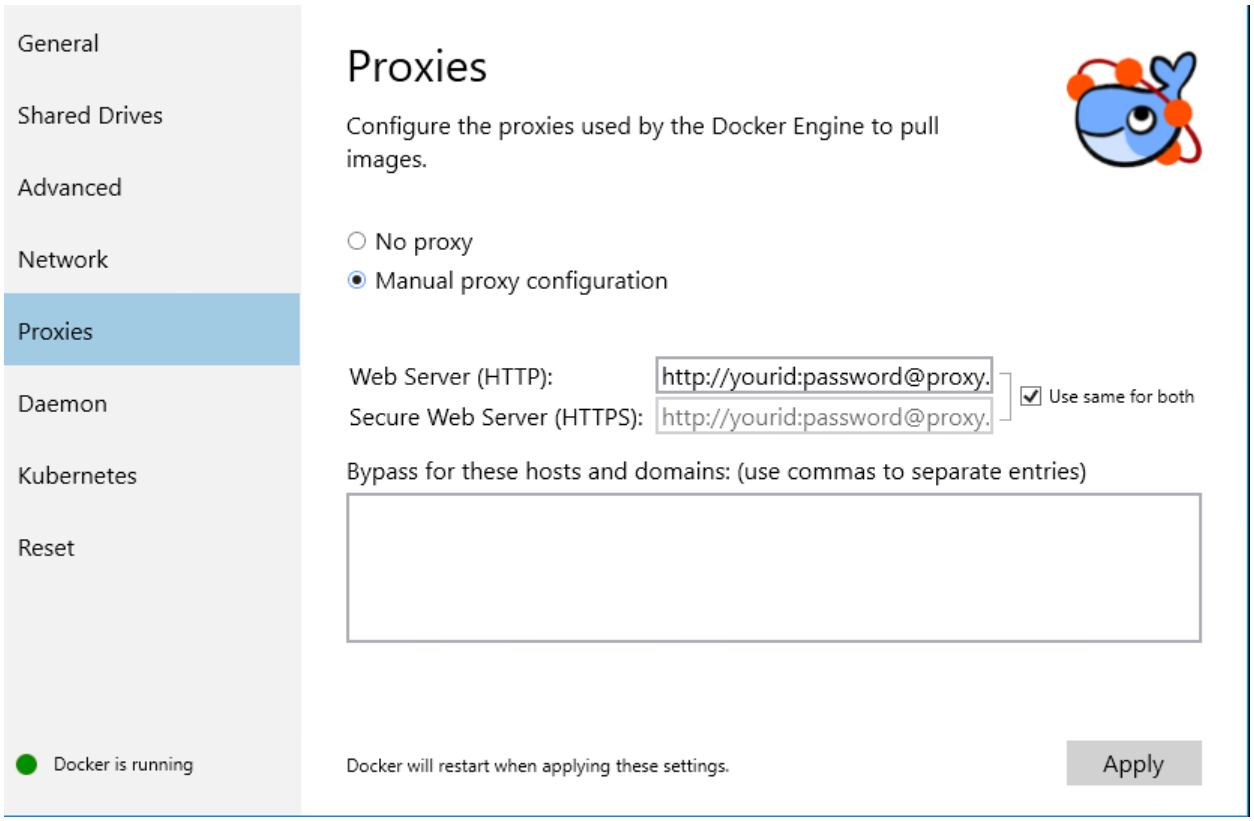




iii) Set the proxy to Manual

Web server →http://yourid:yourpassword@proxy.cognizant.com

And select use same for both and Apply

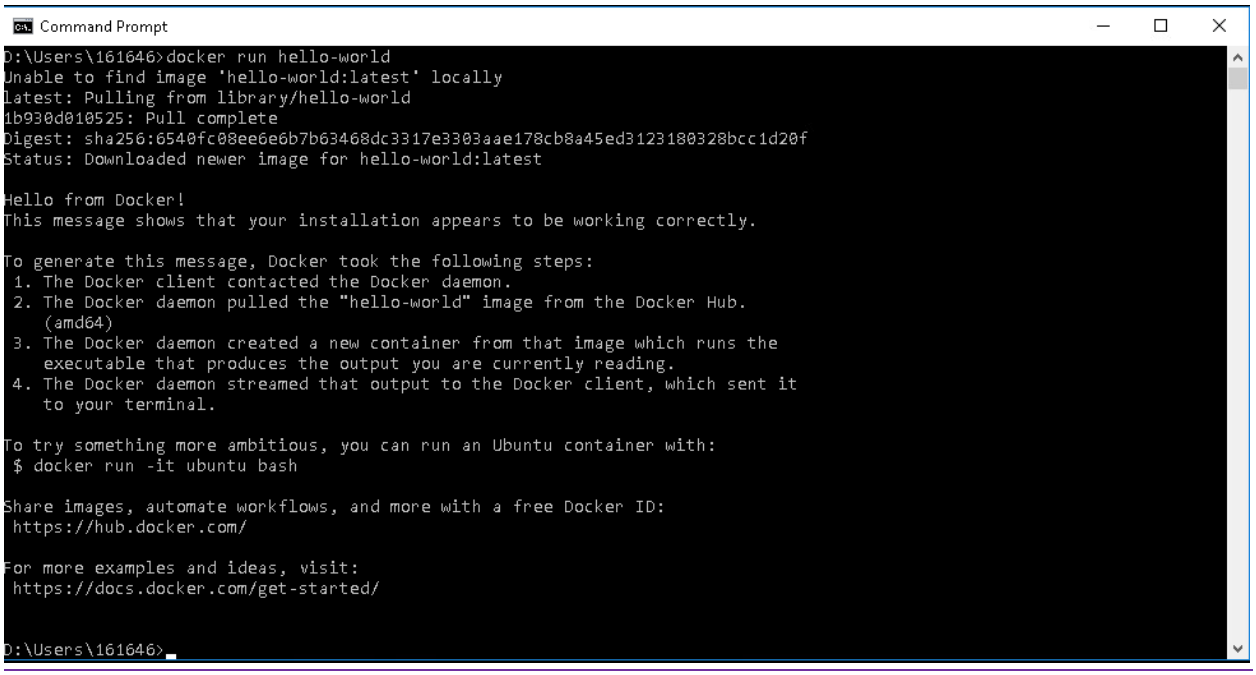


Docker gets restarted

iv) Test the Docker, by executing a hello-world container from command prompt using the command *docker run hello-world*

Please Note:

1) Do not use the IP address allocated to the container(by docker), instead use localhost(like http://localhost:8081)
2) Use only the host port range 32768 to 65535 to map with container ports. Other host port mapping might not work in this lab.
3) Since this lab has to pass through proxy to download the dependencies for building images, you might experience URL blocking sometimes. In that case please do raise a GSD with the URL details (that is getting blocked



PostMan Client (To be installed by the user)

Install using *C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE\Postman-win64-7.1.1-Setup (Installer).exe*

Node.js 10.15.3(To be installed by the user)

Install using C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE\node-v10.15.3-x64(Installer).msi

Angular (To be installed by the user)

i) Add npm path to environment variable PATH as *c:\>set PATH=%PATH%;C:\Program Files/nodejs;*

ii) Execute the following commands in command prompt

D:\>npm config set registry http://registry.npmjs.org/
D:\>npm config set proxy http://yourid:yourpassword@proxy.cognizant.com:6050
D:\>npm config set https-proxy http://yourid:yourpassword@proxy.cognizant.com:6050
D:\>npm config set strict-ssl false

React (To be installed by the user)

Execute the following command in command prompt

npm install -g create-react-app

Ember.js (To be installed by the user)

Execute the following command in command prompt

npm install -g ember-cli

MongoDB 3.3 (Installed)

Installed Path - C:\Program Files\MongoDB

Mongoose (To be installed by the user)

Execute the following command in command prompt

npm install mongoose

Visual Studio Code (To be installed by the user)

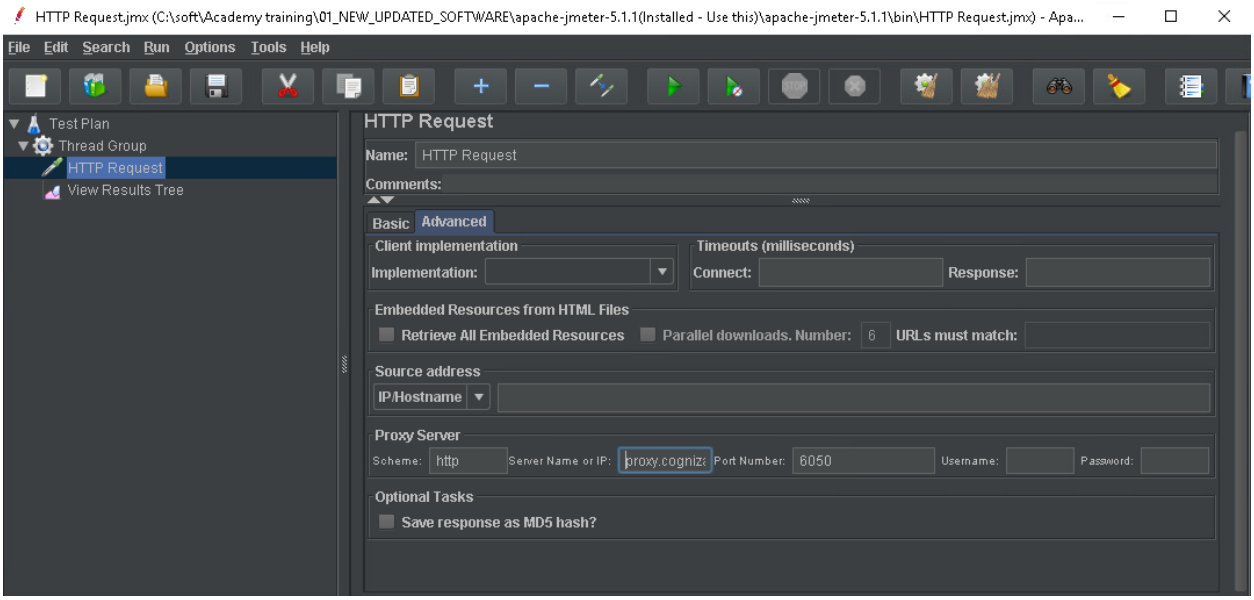
Install using C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE\VSCodeUserSetup-x64-1.34.0 (Installer).exe

Apache Jmeter 5.1.1 (Installed)

Installed Path - C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE\apache-jmeter-5.1.1(Installed - Use this)\apache-jmeter-5.1.1

Congifuration:

I) Set the proxy at ThreadGroup → HTTPRequest→Advanced (Tab)→Proxy Server with schema as “http” server name as "proxy.cognizant.com" port number as "6050" and username/password as your network credentials



Notepad++ 7.7 (Installed)

Installed Path - C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE\npp.7.7.bin.x64 (Installed - Use this)

XAMPP for Windows 7.3.6 (To be installed by the user)

i) *Copy the file xampp-windows-x64-7.3.6-2-VC15-installer[1] From C:\soft\Academy training\01_NEW_UPDATED_SOFTWARE\XAMPP(Install ONLY if REQUIRED) to D:/Users/<<yourid>>/*

ii) *Run the file xampp-windows-x64-7.3.6-2-VC15-installer[1] as D:/Users/<<yourid>>/ xampp-windows-x64-7.3.6-2-VC15-installer[1]*

iii) *After successful installation, keep the default selection of servers and languages as it is and change the port of the services (if needed) via XAMPP Control Panel*